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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,808	05/28/2004	Serafino Bueti	BUR920040017US1	3807

42640 7590 08/26/2009
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EXAMINER

LAM, KENNETH T

ART UNIT	PAPER NUMBER
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2611

MAIL DATE	DELIVERY MODE
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08/26/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/709,808	Applicant(s) BUETI ET AL.	
	Examiner KENNETH LAM	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to the amendment filed on 06/01/2009. Claims 1-20 are pending in this application and have been considered below.

Response to Arguments

2. Applicant's arguments filed 06/01/2009 have been fully considered but they are not persuasive. The examiner thoroughly reviewed Applicant's arguments but firmly believes that the cited reference reasonably and properly meets the claimed limitation as rejected.

Applicant's arguments: In col. 4, lines 8-18, McClennon teaches that a method for power management in a modem attached to a communications link includes monitoring a communications link for incoming data traffic, and if data traffic is detected on the communications link, the periodicity of the incoming data is determined. The power mode of the modem is then determined based on the determined periodicity of the incoming data traffic. Since McClennon's teachings are related to incoming data traffic, it is not relevant to the claimed transmitting step that is related to data to be transmitted. Furthermore, since Verbin's transmitter 20 is in idle mode, which means transmitter 20 is not transmitting any data. Thus, Verbin does not disclose the claimed transmitting step either.

The examiner's response: In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). McClennon teaches an adaptive power management system for a transceiver comprising the claimed components and method except explicitly teaches adjusting a supply voltage level by the sensor to said the driver accordingly and in response to an amount of data that needed to be sent by said sender. McClennon discloses a method for power management with different power modes by monitoring a communications link for incoming data traffic. The modem discloses by McClennon is a transceiver that is capable to transmit and receive data through communication link. The amount of data in the data link reflects the amount of data getting transmitted and received. Verbin teaches a method for transmitting a data signal over a communication line responsive to input data wherein different the power consumption of the transmitter is controlled based on the transmitted data. The transmitter enters a quiescent mode to reduce power consumption when the data detector determines the input data stream is idle. The McClennon teaches the claimed method for managing power consumptions for a transceiver by monitoring data transmission on the data link except explicitly teaches adjusting a supply voltage level by the sensor to the sending driver. However, Verbin teaches another known technique for

managing power consumptions for a transmitter according to the data profile.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to utilize the known adaptive power management system as taught by McClennon with the power consumption technique used for transmitter that is taught by Verbin to achieve the same expected results and to further improve the power control in data transmission. The examiner believes the combined teachings reasonably disclose the claimed invention.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1-4, 7-8, 11-14, 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over McClennon et al. (McClennon herein after) (US 6,721,355 B1) in view of Verbin (US 2003/0031269 A1).

Re Claims 1 and 11, McClennon discloses a method and it's apparatus for managing power consumptions (adaptive power management in a modem, column 1, lines 6-14) of a sending driver (line driver **48**, Figure 1) and a receiving driver (in block **60**, Figure 1), wherein said sending driver sends data received from a sender (DSL Transceiver **20**, Figure 3) to said receiving driver via a transmission line (asymmetric digital subscriber line (ADSL), column 1, lines 16-30), said method comprising:

coupling a sensor (Data Traffic Predictor **120**, Figure 3) to said sender (DSL Transceiver **20**, figure 3) and said sending driver (line driver **48**, Figure 1); adjusting a power level by said sensor to said sending driver accordingly (column 4, line 43-65, the modem includes a full on power mode, a zero power mode and a quiescent power mode); and transmitting data/ from said sender by said sending driver on said transmission line to said receiving driver according to said adjusted supply voltage level (the power mode of the modem is then determined based on the determined periodicity of the incoming data traffic, column 4, lines 8-18).

McClennon teaches that the modem includes a full on power mode, a zero power mode and a quiescent power mode (column 4, line 43-65) except adjusting a supply voltage level by said sensor to said sending driver accordingly and in response to an amount of data that needed to be sent by said sender.

However, Verbin teaches a method and system for transmission of high-speed digital signals wherein the sending driver adjusting a supply voltage level by the sensor

to the sending driver in response to an amount of data that needed to be sent ([0036]-[0042]).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to utilize the power consumption controlling method as taught by Verbin with the power management method as taught by McClennon to further improve the power usage efficiency.

Re Claims 2 and 12, the combined teaching discloses the method of Claim 1 and it's apparatus of Claim 11, wherein McClennon teaches said method further includes adjusting a transmission frequency (data rate) by said sensor to said sending driver according to said amount of data needed to be sent by said sender (where the quiescent power mode is selected, the method can also include a further step of determining a minimum data rate to which to operate the modem, column 4, lines 25-42).

Re Claims 3 and 13, the combined teaching discloses the method of Claim 2 and it's apparatus of Claim 12, wherein McClennon teaches said method further includes transmitting data from said sender by said sending driver on said transmission line to said receiving driver according to said adjusted transmission frequency (Transceiver 20 in Figure 3 includes sending and receiving driver, column 4 line).

Re Claims 4 and 14, the combined teaching discloses the method of Claim 1 and its apparatus of Claim 11, wherein McClennon teaches said sensor includes a data level detector (traffic Monitor **122**, figure 4, monitors data arriving at modem **20** to determine a data arrival rate, column 7, lines 50-63).

Re Claims 7 and 17, the combined teaching discloses the method of Claim 1 and its apparatus of Claim 11, wherein McClennon teaches said method further includes coupling controller (Power Mode Controller **126**, Figure 4) to said receiving driver (DSL Transceiver **20**, Figure 3).

Re Claims 8 and 18, the combined teaching discloses the method of Claim 7 and its apparatus of Claim 17, wherein McClennon teaches said method further includes adjusting a power level by said controller to said receiving driver according to the power level of data on said transmission line (the power mode of the modem is then determined based on the determined periodicity of the incoming data traffic, column 4, line 16. It is an inherent property that the power consumption is proportional to the square of the voltage level). Verbin further teaches that the voltage levels are adjusted by the controller according to the voltage level of data ([0042]).

6. Claims 5-6, 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over McClennon et al. (McClennon herein after) (US 6,721,355 B1) and Verbin (US

2003/0031269 A1) as applied to claim 1 and claim 11 above, and further in view of Hanami et al. (Hanami herein after) (US 2003/0133504 A1).

Re Claims 5 and 15, the combined teaching discloses the method of Claim 1 and it's apparatus of Claim 11, except wherein said sensor includes a programmable voltage regulator. However, Hanami teaches a voltage regulator in an integrated circuit capable of reducing power consumption according to data to be processed ([0174]-[0177]).

Re Claims 6 and 16, the combined teaching discloses the method of Claim 1 and it's apparatus of Claim 11, except wherein said sensor includes a clock frequency selector. However, Hanami teaches a clock selector in an integrated circuit capable of reducing power consumption according to data to be processed ([0103]-[0104]).

Therefore, it would be obvious to one skilled in the art at the time the invention was made to included a voltage regulator as taught by Hanami in the power consumption management system taught by McClennon and Verbin to further improve the level of controllability.

7. Claims 9, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over McClennon et al. (McClennon herein after) (US 6,721,355 B1) and Verbin (US 2003/0031269 A1) as applied to claim 7 and claim 17 above, and further in view of Borla (US 6,433,730 B1).

Re Claims 9 and 19, the combined teaching discloses the method of Claim 7 and it's apparatus of Claim 17, except wherein said controller includes a pulse amplitude detector. However, Borla teaches using pulse detection for measuring arrival, amplitude, pulse width and amplitude to detect received signal (column 1 line 19 - column 2 line 9).

Therefore, it would be obvious to one skilled in the art at the time the invention was made to incorporate the signal detection method and apparatus as taught by Borla and the frequency detection in the power consumption management system taught by McClennon and Verbin to further improve the accuracy of frequency detection.

8. Claims 10, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over McClennon et al. (McClennon herein after) (US 6,721,355 B1) and Verbin (US 2003/0031269 A1) as applied to claim 7 and claim 17 above, and further in view of Hanami et al. (Hanami herein after) (US 2003/0133504 A1).

Re Claims 10 and 20, the combined teaching discloses the method of Claim 7 and it's apparatus of Claim 17, except wherein said controller includes a programmable voltage regulator. However, Hanami teaches a voltage regulator in an integrated circuit capable of reducing power consumption according to data to be processed ([0174]-[0177]).

Therefore, it would be obvious to one skilled in the art at the time the invention was made to include a voltage regulator as taught by Hanami in the power consumption

management system taught by McClennon and Verbin to further improve the level of controllability.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KENNETH LAM whose telephone number is (571)270-1862. The examiner can normally be reached on Mon - Fri 7:30 am - 4:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shuwang Liu can be reached on (571) 272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2611

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KENNETH LAM/

Examiner, Art Unit 2611

08/18/2009

/Shuwang Liu/

Supervisory Patent Examiner, Art Unit 2611